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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/518,675	03/03/2000	May Suzuki	ASA-761-02	5762

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ALEXANDRIA, VA 22314

EXAMINER

GEORGE, KEITH M

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 08/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/518,675

Applicant(s)

SUZUKI ET AL.

Examiner

Keith M. George

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-20 is/are allowed.
- 6) ☒ Claim(s) 12 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/257,002.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. All objections and rejections of the previous Office Action mailed 16 July 2003 are hereby withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukawa et al., U.S. Patent 5,790,588, hereinafter Fukawa in view of Terashima.
4. Referring to claim 12, Fukawa teaches a standard spread spectrum receiver in figure 6. The receiving part (20) of the figure contains an antenna (25) that receives the transmitted wave. The received wave is amplified by the low-noise amplifier (26) and multiplied by the carrier signal CW from the carrier signal generator (27) thereafter being input into the low pass filter 29. This operation corresponds to down converting and the low pass filter outputs the spread baseband received signal (column 8, lines 7-22). Fukawa goes on to teach in figure 8 a matched filter and a correlator which outputs the correlations between the short code and the despread baseband modulated signal (column 11, lines 19-37). Fukawa also teaches that short codes have a code period of the same length as that of the symbol period and the long code has a very long

period corresponding to tens or hundreds of symbol lengths (column 1, lines 47-52, figure 2). Fukawa teaches all of the above with the possible exception of teaching one section of a signal spread by a long period code and a second section spread by a first and second short period code being smaller than the long period code and to despread the control signal using the first short period code. Terashima teaches in figure 2 a first section of a signal spread by a long code (LC), then during a long code masked segment, a section of the signal spread by a common short code (CSC) (first short period code) and a group identification short code (GISC) (second short period code). Terashima also teaches that firstly the common short code CSC existing over the masked segment is detected from the received signal to detect the timing of the long code (despread the control signal by using the first short period code) (column 2, lines 62-64). Terashima goes on to teach that the common short code has a comparatively short cycle and the long code has a longer cycle than the common short code (column 2, lines 9-15). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize the short and long codes in the method taught by Terashima on the hardware taught by Fukawa. One of ordinary skill in the art would have been motivated to do this as a method to speed up the cell search in asynchronous system between base stations (Terashima, column 1, lines 62-64).

5. Referring to claim 13, Fukawa and Terashima teach the method described in reference to claim 12 above and Terashima goes on to teach that the common short code CSC (first short period code) is common in each base station (column 2, lines 11-13). Terashima also teaches that the group identification short code GISC (second short period code) shows the group of long codes LC to be used in the signal generation unit and has the same cycle as the common short code CSC (column 2, lines 30-33).

Allowable Subject Matter

6. Claims 14-20 are allowed.
7. The following is a statement of reasons for the indication of allowable subject matter:
 - a. In the examiner's opinion, it would not have been obvious to a person of ordinary skill in the art to set the number of taps of a matched filter to be smaller than a spreading factor of a long period code of a control signal as was taught in claims 14 and 17 in combination with the remaining limitations in these claims.
 - b. In the examiner's opinion, it would not have been obvious to a person of ordinary skill in the art to use a long period spreading code and a first short spreading code to spread the first section of a control signal and to use a second and third short period spreading code to spread the second section of a control signal as taught in claims 15 and 16 in combination with the remaining limitations in these claims.
 - c. In the examiner's opinion, it would not have been obvious to a person of ordinary skill in the art to set the number of stages of a matched filter smaller than a number representing a symbol length of a control signal as taught in claims 18-20 in combination with the remaining limitations in these claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - a. Higuchi et al., U.S. Patent 6,167,037, teaches achieving high speed spreading code synchronization of a forward link control channel.

- b. Yoneyama, U.S. Patent 6,459,724, teaches a perch channel slot timing detection method and circuit in a W-CDMA scheme.
- c. Belcher et al., U.S. Patent 4,969,159, teaches a spread spectrum communication system employing composite spreading codes with matched filter demodulator.

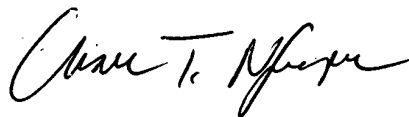
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith M. George whose telephone number is 703-305-6531. The examiner can normally be reached on M-Th 7:00-4:30, every other F 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on 703-308-5340. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9315 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.



Keith M. George
20 August 2003



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600